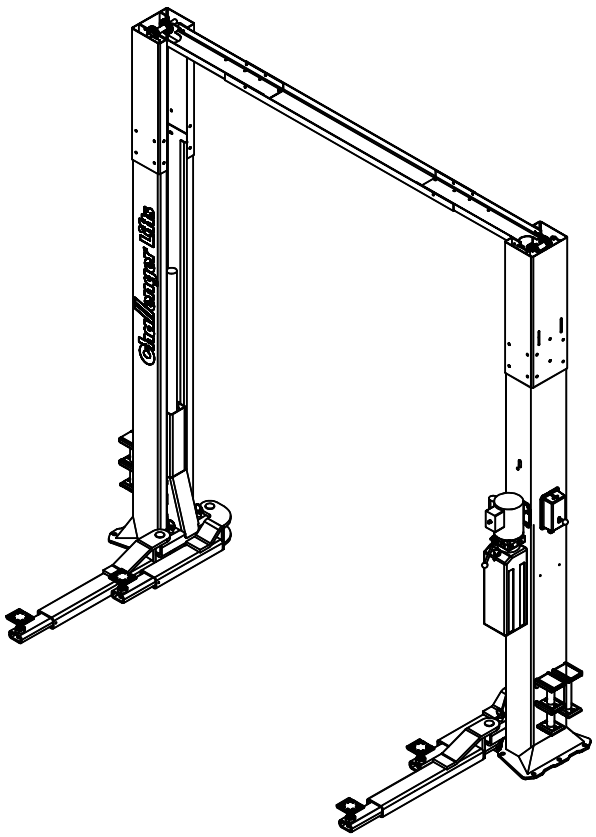
INSTALLATION, OPERATION & MAINTENANCE MANUAL

Versymmetric™ Two Post Surface Mounted Lift



MODEL CL9

9,000 LBS. CAPACITY
2250 LBS. PER ARM

200 Cabel Street, P.O. Box 3944 Louisville, Kentucky 40201-3944
Email:sales@challengerlifts.com Web site:www.challengerlifts.com

Office 800-648-5438 / 502-625-0700 Fax 502-587-1933

IMPORTANT: **READ THIS MANUAL COMPLETELY BEFORE INSTALLING or OPERATING LIFT**

Rev. 10/9/03
A1151.doc

GENERAL SPECIFICATIONS

See Figure 1	CL9	CL9-1	CL9-2
A Adjustable Column Height	**11'-8"** or 11'-2"	**12'-8"** or 12'-2"	**13'-8"** or 13'-2"
B Floor to Overhead Switch	**11'-2"** or 10'-8"	**12'-2"** or 11'-8"	**13'-2"** or 12'-8"
C Rise Height *(Screw Pads Highest Position)*	**74 5/8"**		
D Cylinder Height *(Full Stroke)*	**11'-11"**		
E Adjustable Overall Width	**11'-2"** or 10'-8" or 10'-2"		
F Screw Pad Height	**4 ¼"** to **6 ¾"**		
G Inside of Columns	**109"** or 103" or 97"		
Drive Thru Clearance	**89"** or 83" or 77"		
Ceiling Height Required	**12'-0"**	**12'-9"**	**13'-9"**
* Maximum Capacity	**9,000 lbs**. (**2250 lbs**. Per Arm)		
** Lifting Time	**60 Sec**. (approximate)		
** Lowering Time	**30 Sec**. (approximate)		
Motor	**2HP, Single Phase, 60Hz, 208/230** Optional – 2HP, Three Phase, 50/60Hz, for 208 or 230 or 460		

Dimensions in **BOLD** are "Standard" settings.

Installing the lift at a narrow setting *(E = 103" or 97")* may adversely affect ability to reach some vehicle pick up points and requires cutting the overhead shutoff bar.

* Lift capacity ratings are based on loads equally distributed on all four arms.

** Lifting and lowering speeds may vary depending on weight of vehicle.

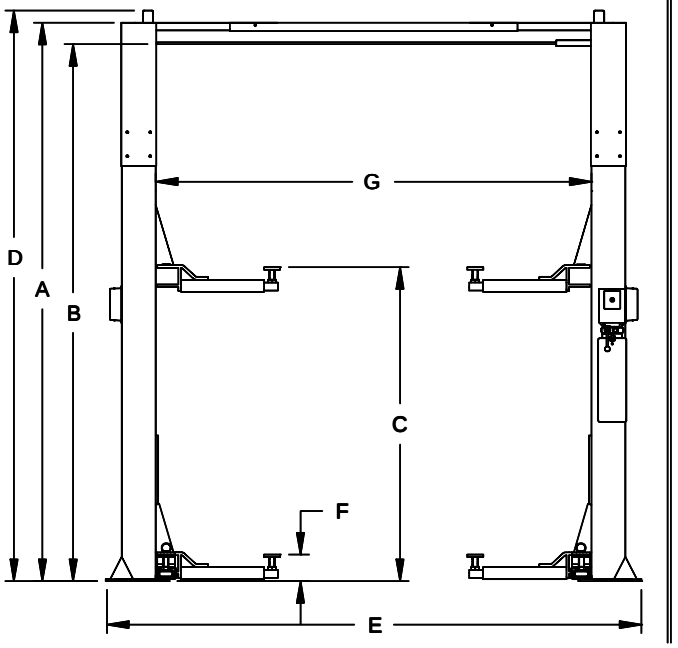


Fig 1a - General Specifications

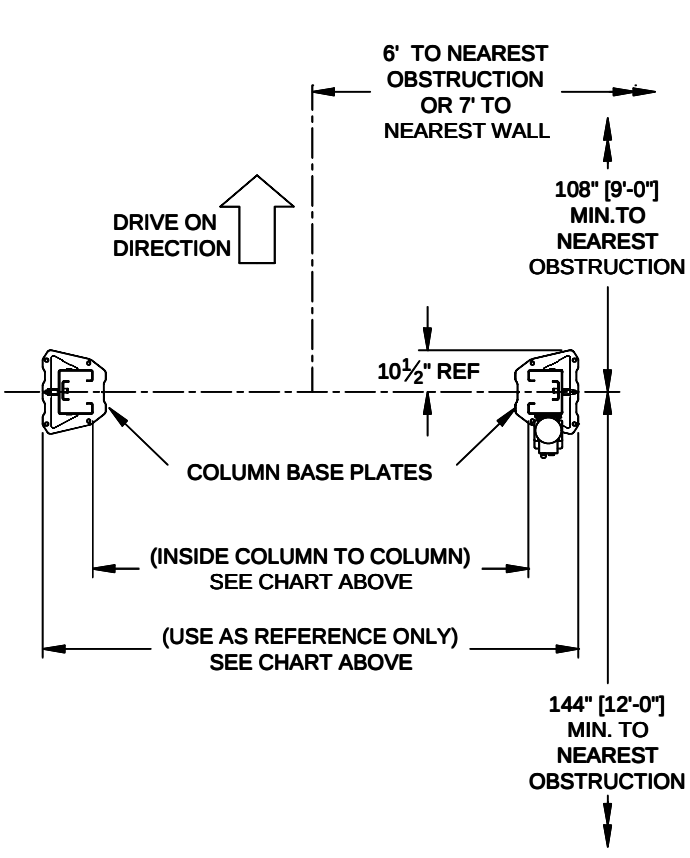

6' TO NEAREST OBSTRUCTION OR 7' TO NEAREST WALL
108" [9'-0"] MIN.TO NEAREST OBSTRUCTION
DRIVE ON DIRECTION
10½" REF
COLUMN BASE PLATES
(INSIDE COLUMN TO COLUMN) SEE CHART ABOVE
(USE AS REFERENCE ONLY) SEE CHART ABOVE
144" [12'-0"] MIN. TO NEAREST OBSTRUCTION

Fig1b - Service Bay Layout

VERTICAL CLEARANCE

Check the height of the area where the lift is to be installed. Clearance should be calculated based on the full raised height of the lift.

WARNING **Failure by purchaser to provide adequate clearance could result in unsatisfactory lift performance, property damage, or personal injury.**

FLOORING

Be certain you have the proper concrete floor to properly handle the loaded lift. Floor should be in generally good condition with no large cracks, spalling or deterioration.

Minimum requirements for concrete are 4 inches minimum depth, with steel reinforcement, 3500 psi, cured for 28 days per local commercial practice. Floor should be level within 3/8 inch over the installation area. No anchors should be installed within 8 inches of any crack, edge, or expansion joint. If these conditions cannot be met, pads can be poured to accommodate the lift.

Check with local building inspectors and/or permits office for any special instructions or approvals required for your installation.

WARNING **Failure by purchaser to provide the recommended mounting surface could result in unsatisfactory lift performance, property damage, or personal injury.**

ELECTRICAL REQUIREMENTS

For lift installation and operation for single phase units, it is necessary to have a dedicated circuit with a double pole 25 amp circuit breaker or time delay fuse.

SAFETY NOTICES AND DECALS

For your safety, and the safety of others, read and understand all of the safety notices and decals included here.

READ ENTIRE MANUAL BEFORE ASSEMBLING, INSTALLING, OPERATING, OR SERVICING THIS EQUIPMENT.

PROPER MAINTENANCE AND INSPECTION IS NECESSARY FOR SAFE OPERATION.

DO NOT OPERATE A DAMAGED LIFT.

Safety decals similar to those shown here are found on a properly installed lift. Be sure that all safety decals have been correctly installed on the Power Unit reservoir. Verify that all authorized operators know the location of these decals and fully understand their meaning. Replace worn, faded, or damaged decals promptly.

WARNING **Do not attempt to raise a vehicle on the lift until the lift has been correctly installed and adjusted as described in this manual**.

SAFETY INSTRUCTIONS
Read operating and safety manuals before using lift.
SAFETY INSTRUCTIONS
Proper maintenance and inspection is necessary for safe operation.
SAFETY INSTRUCTIONS
Do not operate a damaged lift.
The messages and pictographs shown are generic in nature and are meant to generally represent hazards common to all automotive lifts regardless of specific style.
Funding for the development and validation of these labels was provided by the Automotive Lift Institute, PO Box 33116 Indialantic, FL 32903
They are protected by copyright Set of labels may be obtained from ALI or its member companies
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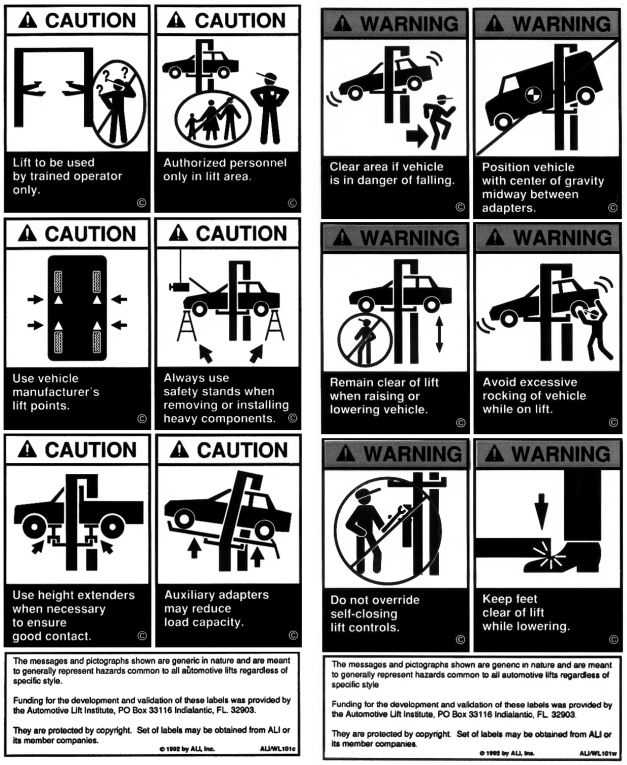
CAUTION
Lift to be used by trained operator only.
CAUTION
Authorized personnel only in lift area.
WARNING
Clear area if vehicle is in danger of falling.
WARNING
Position vehicle with center of gravity midway between adapters.
CAUTION
Use vehicle manufacturer's lift points.
CAUTION
Always use safety stands when removing or installing heavy components.
WARNING
Remain clear of lift when raising or lowering vehicle.
WARNING
Avoid excessive rocking of vehicle while on lift.
CAUTION
Use height extenders when necessary to ensure good contact.
CAUTION
Auxiliary adapters may reduce load capacity.
WARNING
Do not override self-closing lift controls.
WARNING
Keep feet clear of lift while lowering.
The messages and pictographs shown are generic in nature and are meant to generally represent hazards common to all automotive lifts regardless of specific style.
Funding for the development and validation of these labels was provided by the Automotive Lift Institute, PO Box 33116 Indialantic, FL. 32903.
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RECEIVING

The shipment should be thoroughly inspected as soon as it is received. The signed bill of lading is acknowledgement by the carrier of receipt in good condition of shipment covered by our invoice.

If any of the goods called for on this bill of lading are shorted or damaged, do not accept them until the carrier makes a notation on the freight bill of the shorted or damaged goods. Do this for your own protection.

NOTIFY ***Challenger Lifts*** AT ONCE if any hidden loss or damage is discovered after receipt.

IT IS DIFFICULT TO COLLECT FOR LOSS OR DAMAGE AFTER YOU HAVE GIVEN THE CARRIER A CLEAR RECEIPT.

File your claim with ***Challenger Lifts*** promptly. Support your claim with copies of the bill of lading, freight bill, and photographs, if available.

Component Packing List

PART #	QTY/ LIFT	DESCRIPTION
A1001-P	1	Power Column Ass'y
A1001-I	1	Idler Column Ass'y
A1060	1	Overhead (Mid Section)
A1061	2	Overhead (End Section)
A1005	1	Hardware Box
A1002	1	Arm Pack
A1055-0	2	Column Extension for CL9
A1055-1		Column Extension for CL9-1
A1055-2		Column Extension for CL9-2
A1003-0	1	Sync Cable Pack for CL9
A1003-1		Sync Cable Pack for CL9-1
A1003-2		Sync Cable Pack for CL9-2
36035	1	Overhead Shut-Off Bar Ass'y
36027	1	Mercury Switch
A1004	1	Hydraulic Hose Pack
A1201-15 A1203-15	1	Power Unit – 1 Phase Power Unit – 3 Phase
A1150	1	Literature Pack

INSTALLATION

IMPORTANT: Always wear safety glasses while installing lift.

TOOLS (MINIMUM REQUIRED)

a. Banding Cutter
b. Tape measure, 16ft
c. Chalk line
d. 4ft level
e. 10" adjustable wrench
f. Standard open end wrenches 7/16", 1/2", (2) 9/16", (2) 11/16", 3/4"
g. 5/16" allen wrench
h. Needle nose pliers
i. Hammer drill with 3/4" diameter carbide tipped bit
j. 2lb hammer
k. Torque wrench: 150 foot pounds minimum with 1 1/8" socket
l. 12 ft. Step ladder
m. Pull wire or fish tape
n. Anti-Seize lubricant (for arm pins)
o. 3/4" O.D. Pipe cutter (if installing lift at narrow width setting)

LAYOUT

1) Layout the service bay according to the architect's plans or owners instructions ***(see Fig 1b***). Be certain that the proper conditions exist, see page 3.
2) Assemble column extension to column using 3/8-16 x 3/4" lg Hex flange head bolt. repeat for opposite column and extension.
3) Erect both column assemblies. Align the notches in column base, **Fig 2**, with the installation lines. (HINT: It may be easier to install the lower synchronizer cable, Fig 7b, before columns are raised)

ANCHORING

4) The anchor bolts must be installed at least 8 inches from any crack, edge, or expansion joint.
5) Use a concrete hammer drill with a 3/4 inch carbide bit. Tip diameter should conform to ANSI Standard B94.12-1977 (.775 to .787). Do not use excessively worn bits or bits which have been incorrectly sharpened. A core bit may be necessary if an obstruction is encountered. **Never substitute with shorter anchor.**
6) Recheck "Inside of Columns" dimension, **Fig 1**. Drill the anchor holes using the base plate as a template. Drill through the floor if possible or to a depth of 5 inches minimum.
7) Vacuum dust from the hole for proper holding power.

8) Shim both columns to plumb using the shims provided as shown in **Fig 2**. DO NOT shim more than 1/2" at any given point. Use a level no less than 24" in length to plumb columns.

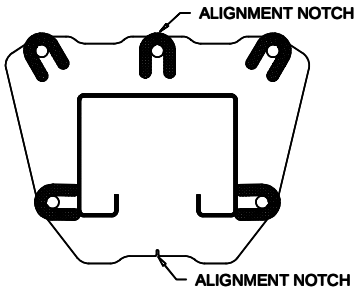


Fig 2 – Column Shimming

9) Assemble washer and nut to anchor with nut just below impact section of bolt. Drive anchor into hole until nut and washer contact base.

10) Tighten power column anchors and recheck column for plumb. Reshim if necessary. Torque to 150 foot pounds to set anchors.

OVERHEAD BEAM

11) Assemble the (3) part overhead with (12) 3/8-16 x 3/4" lg hex flange head bolts and (12) hex flange nuts using **Fig 1** on page 2 as reference for proper width. Before raising overhead into position install 4 each (2 per column) hex flange bolts and nuts in middle hole of column extension ***(see Fig 3 Installation Aid)*** for temporary support of overhead. Lift overhead assembly up into position and install with 6 each (3 per column) 3/8-16 x 3/4" lg hex flange bolts and hex flange nuts per side as shown in **Fig 3**.

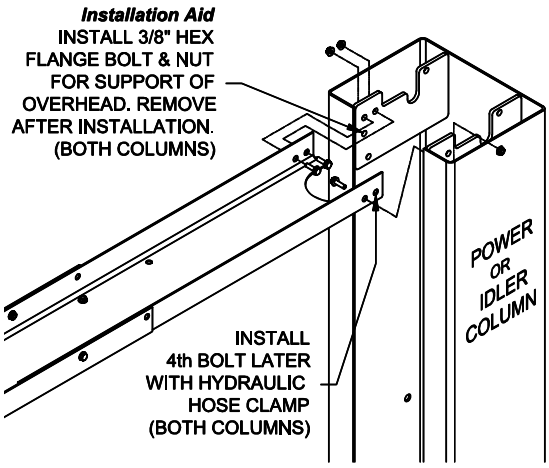

Installation Aid
INSTALL 3/8" HEX FLANGE BOLT & NUT FOR SUPPORT OF OVERHEAD. REMOVE AFTER INSTALLATION. (BOTH COLUMNS)
POWER OR IDLER COLUMN
INSTALL 4th BOLT LATER WITH HYDRAULIC HOSE CLAMP (BOTH COLUMNS)

Fig 3 – Overhead Assembly

12) Check idler column shimming. Use additional shims (***see Fig. 2***) to remove any gaps that may have been created while installing overhead beam. Tighten anchor bolts and re-check column for plumb. Torque to 150 foot pounds.

13) Install Overhead Limit Switch to Power Column using (1) 3/8" pivot pin, (1) 3/8" flat washer and (1) hairpin cotter pin as shown in **Fig 4a**.

IMPORTANT: switch tube cord is to be oriented **above** pivot pin as shown below.

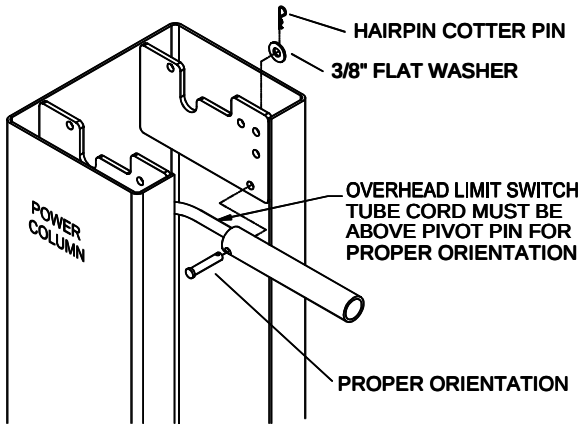

HAIRPIN COTTER PIN
3/8" FLAT WASHER
OVERHEAD LIMIT SWITCH TUBE CORD MUST BE ABOVE PIVOT PIN FOR PROPER ORIENTATION
POWER COLUMN
PROPER ORIENTATION

Fig 4a – Overhead Limit Switch Sub-Assembly

IMPORTANT: The "standard" setting for the **INSIDE OF COLUMNS** dimension is 109 inches. If the lift is to be installed at 103" or 97", use tubing cutter to shorten the end opposite where attachment hole is. See chart below for cut length.

Inside of Column	109"	103"	97"
Shutoff Bar Length	107 ¼"	101 ¼"	95 ¼"

14) Insert shut-off bar in switch tube on power column side and take other end to idler side. Attach shut-off bar to idler column with (1) 3/8" pivot pin, (6) 3/8" flat washer and (1) hairpin cotter pin as shown in **Fig 4b**.

Insure that both switch tube and shut-off assemblies pivot freely for proper operation.

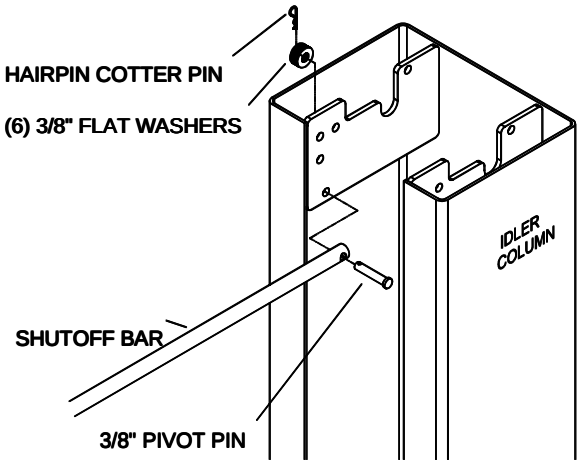


Fig 4b – Overhead Limit Switch Sub-Assembly

15) Assemble the sheaves, spacers and washers onto the sheave pin as shown in **Fig 5**. Set in cradle with all assembly parts between the two plates.

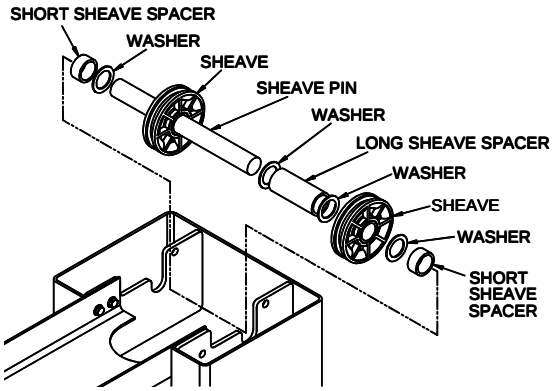


Fig 5 – Sheave Assembly

LOCKING PAWL

16) Install Power Column locking pawl and lock release clevis with 5/8" diameter x 1 1/2" lg shoulder bolt and 1/2"-13 nylon lock nut, **Fig. 6.** Attach 3/8" O.D. extension spring to upper hole in locking pawl and other end to hole in bracket welded to column.

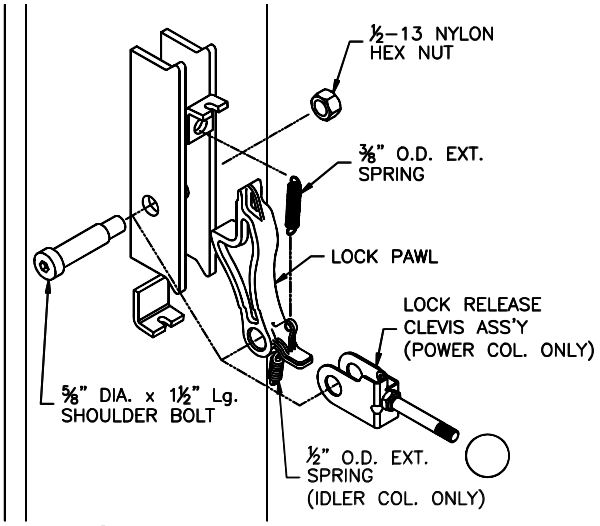

½–13 NYLON HEX NUT
⅜" O.D. EXT. SPRING
LOCK PAWL
LOCK RELEASE CLEVIS ASS'Y (POWER COL. ONLY)
⅝" DIA. x 1½" Lg. SHOULDER BOLT
½" O.D. EXT. SPRING (IDLER COL. ONLY)

Fig 6 – Locking Pawl Assembly

17) Attach ½" O.D. extension spring to hole located on bottom side of Idler Column lock pawl and install using 5/8" shoulder bolt and lock nut, **Fig 6.** Attach 3/8" O.D. spring the same as Power side.

SYNCHRONIZER CABLES

18) Manually raise the carriages approximately 32 inches to gain access to the cable-tie-off tabs located on the carriage ladder. Insure that the top of the hydraulic cylinder is out of the way but still retained in the opening of the top plate of the carriage as shown in **Fig 7a**.

19) Route synchronizing cables using **Fig 7a** and attach ends to cable-tie-off tabs using **Fig's 7b & 7c**.

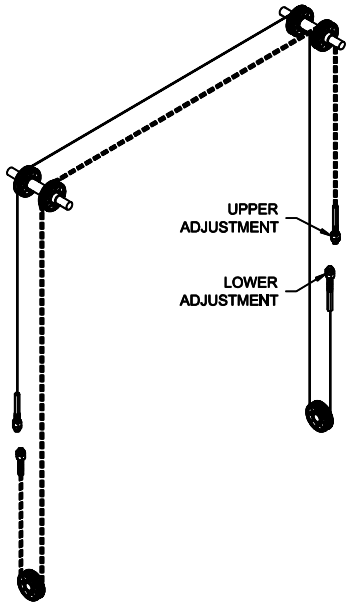


Fig 7a – Cable Routing

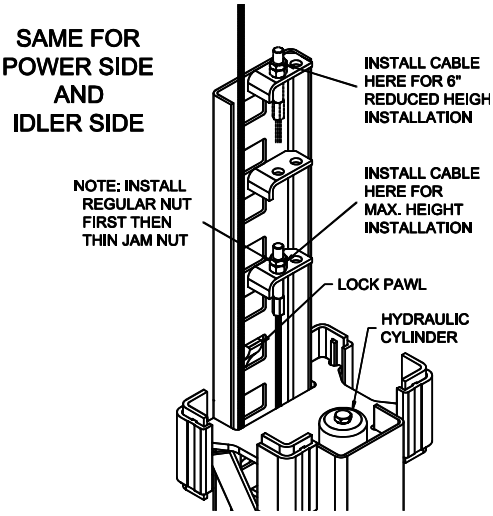

SAME FOR POWER SIDE AND IDLER SIDE
INSTALL CABLE HERE FOR 6" REDUCED HEIGH INSTALLATION
NOTE: INSTALL REGULAR NUT FIRST THEN THIN JAM NUT
INSTALL CABLE HERE FOR MAX. HEIGHT INSTALLATION
LOCK PAWL
HYDRAULIC CYLINDER

Fig 7b – Attaching Cable from Below

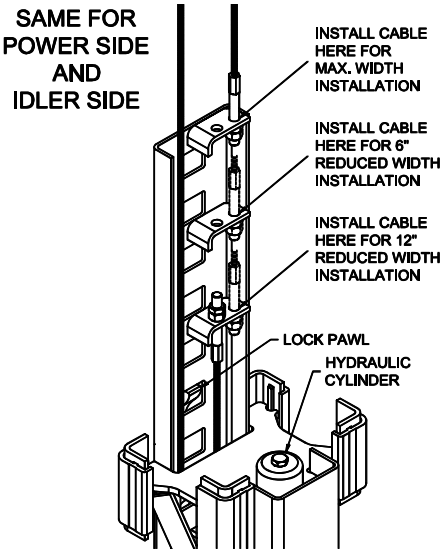

SAME FOR POWER SIDE AND IDLER SIDE
INSTALL CABLE HERE FOR MAX. WIDTH INSTALLATION
INSTALL CABLE HERE FOR 6" REDUCED WIDTH INSTALLATION
INSTALL CABLE HERE FOR 12" REDUCED WIDTH INSTALLATION
LOCK PAWL
HYDRAULIC CYLINDER

Fig 7b – Attaching Cable from Above

SYNCHRONIZER CABLE ADJUSTMENT

This method requires adjusting the cable ends at the power column only

20) At the power side carriage adjust the Cable from Above until the power column carriage is 1/8" off its locking pawl.

NOTE: The Lower Cable should NOT be tight before beginning this step.

21) Now adjust the Cable from Below until the power column carriage contacts its locking pawl. Grab the back of the locking pawl and wobble it. Continue tightening until the lock pawl is tight.

When the cables have been adjusted properly, neither locking pawl will wobble by hand. (tighten the power column lower cable to tighten the power column locking pawl or the power column upper cable for the idler column locking pawl.

22) Tighten the thin Jam Nuts against the Cable Adjustment Nut.

POWER UNIT & HYDRAULIC HOSE

23) Mount Power Unit to power column as shown in **Fig 8**. The mounting hardware, (4) 5/16"-18 hex nuts, are pre-installed on power unit mounting bracket.

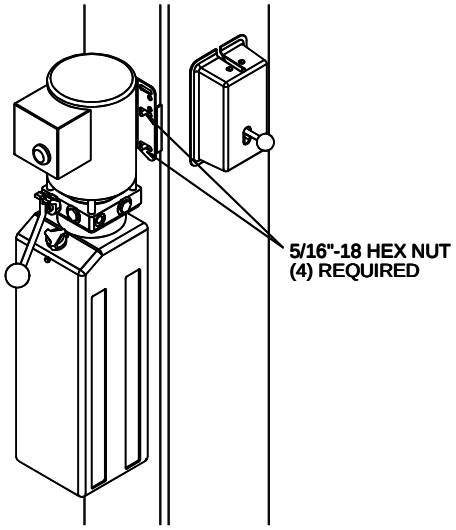


Fig 8 – Power Unit Mounting

24) Attach hydraulic elbow fitting (*in hardware box*) threading the 9/16-18 O-ring end to power unit. See **Fig 9**. CAUTION not to damage rubber O-ring.

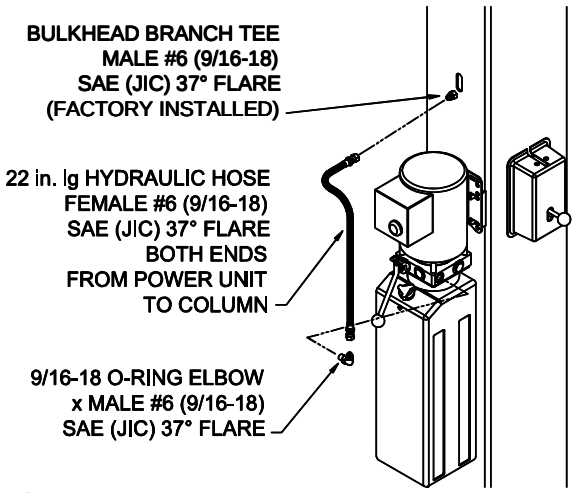


Fig 9 – Hydraulic Hose from Power Unit to Power Column.

IMPORTANT – To insure proper hose fitting seal without damage to the fitting follow this procedure for each hose connection: Screw flared fitting on finger tight. Rotate flared fitting 1 1/2 hex flats (90 deg.). Back the flared fitting off one full turn. Again tighten flared fitting finger tight, then rotate flared fitting 1 1/2 hex flats (90 deg.).

25) Thread power unit hydraulic hose (22" lg *in hardware box*) into elbow on power unit. Thread opposite end of hose into male #6 fitting (*factory installed*) attached to power column as shown in **Fig 9**.

26) From Idler Column route the hydraulic hose (*factory installed from cylinder to top of column*) up to Overhead. **LOOSEN FACTORY INSTALLED CLAMP AT TOP OF IDLER COLUMN AND GENTLY PULL UP ANY SLACK FROM HOSE.** Install a hose clamp in column extension and in overhead beam with (1) 3/8"-16 x 3/4" lg. hex flange bolt and hex flange nut per clamp as shown in **Fig 10a.**

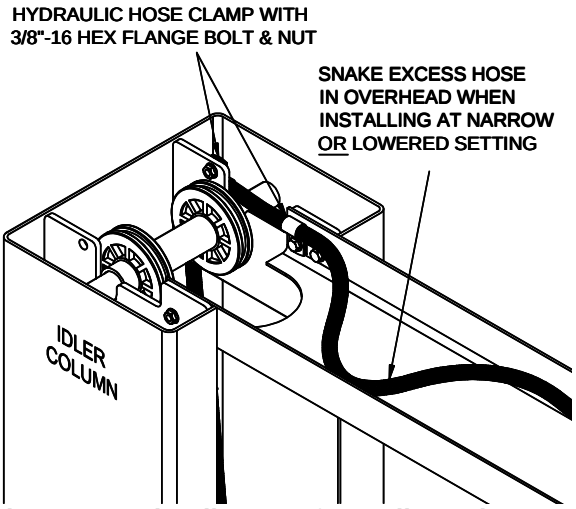


Fig 10a – Hydraulic Hose from Idler Column to Overhead.

(Sync cables removed for clarity)

27) Route hydraulic hose from Idler column across Overhead to the Power Column and down inside of Power Column (routing is identical to Idler Column) to male #6 JIC bulkhead "T" fitting. Loosely attach hose to "T". *If this is an extended height lift (model CL9-1 or CL9-2), an extension hose (supplied) will connect the Idler hose to the "T" fitting.*

28) While gently pulling slack up from the "T" fitting to the top of the power column extension, **twist the hose until it lays flat in the overhead beam**. *(When installing lift at narrow or low setting, excess hose should be snaked in bottom of overhead, **Fig 10a**. When installing at narrow and low setting, form a loop in the column extension between the overhead support plate and the inside wall of the column extension, **Fig 10b**.)* Install hose clamps identical to idler side, one hose clamp at the top of the column, one at the top of the column extension and one at the end of the overhead. **Fig 10b**. Tighten connection at "T" fitting.

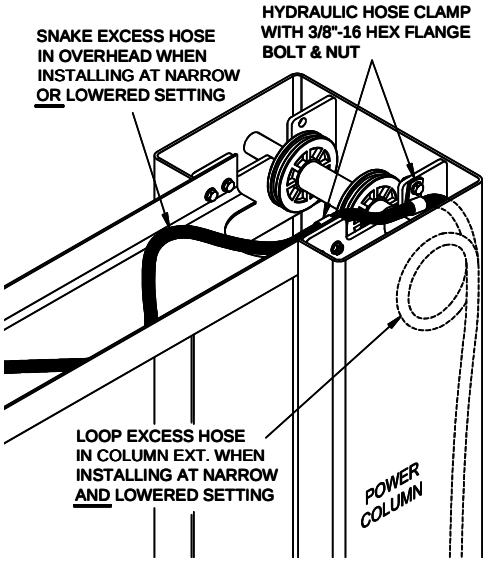

SNAKE EXCESS HOSE IN OVERHEAD WHEN INSTALLING AT NARROW OR LOWERED SETTING
HYDRAULIC HOSE CLAMP WITH 3/8"-16 HEX FLANGE BOLT & NUT
LOOP EXCESS HOSE IN COLUMN EXT. WHEN INSTALLING AT NARROW AND LOWERED SETTING
POWER COLUMN

Fig 10b – Hydraulic Hose from Overhead to Power Column.
(Sync cables removed for clarity)

29) **BE CERTAIN ALL FITTINGS AND CONNECTIONS ARE TIGHT. IT IS THE INSTALLERS RESPONSIBILITY TO INSURE SYSTEM IS LEAK-FREE.** Fill the Power Unit with three gallons of clean 10wt anti-foam anti-rust hydraulic oil or Dexron III ATF. **DO NOT USE OILS WITH DETERGENTS.**

FOR LIFTS WITH OPTIONAL DUAL PENDANT CONTROL, SKIP STEPS 26 THRU 31 AND REFER INSTEAD TO THE "*DUAL PENDANT CONTROL INSTALLATION & OPERATION MANUAL SUPPLEMENT*".

LOCK RELEASE

30) Attach Mechanical Lock Release Cable Assembly to Power Column Lock Release Clevis using the 3/16" diameter x 1/2" long pin and (2) "C" clip retainers, **Fig 11**.

31) Insert threaded sleeve portion of cable assembly in slot located on tab above locking pawl, **Fig 11**. One jam nut should be located on each side of tab. Position threaded sleeve with ½" of thread below tab as indicated in **Fig 11** and tighten jam nuts.

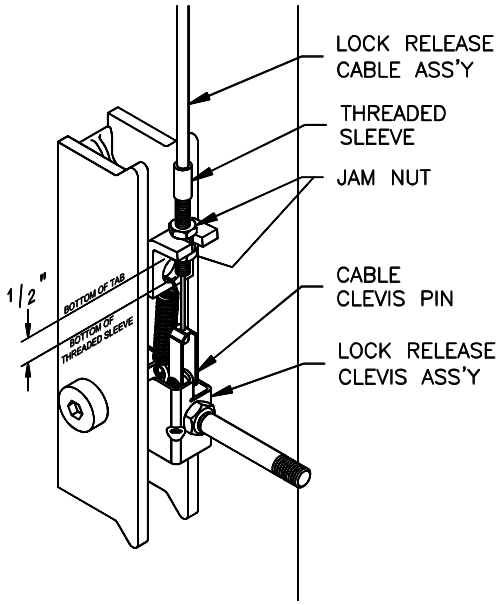


Fig 11 – Power Column Lock Assembly

32) Route opposite end of cable assembly up left side of Power Column and into column through access slot (3/8"x4" Lg.) in bottom of Column Extension. Following the path of the hydraulic line, route cable assembly across overhead clear of moving parts and back out through access slot in bottom of idler side column extension (again use left slot when viewed from outside of column). Attach Cable Assembly to the hydraulic hose with loosely fit wire ties.

NOTE: DO NOT kink cable assembly when routing. Tighten and trim wire ties after final cable adjustments have been made.

33) Attach Adhesive-Backed Tab to Idler Column left of the lock assembly **(Fig 12)**. Route Lock Release Cable down left side of Idler Column and secure with loosely fit wire tie to Adhesive-Backed Tab. Attach Cable clevis to 1/2" O.D. Extension Spring.

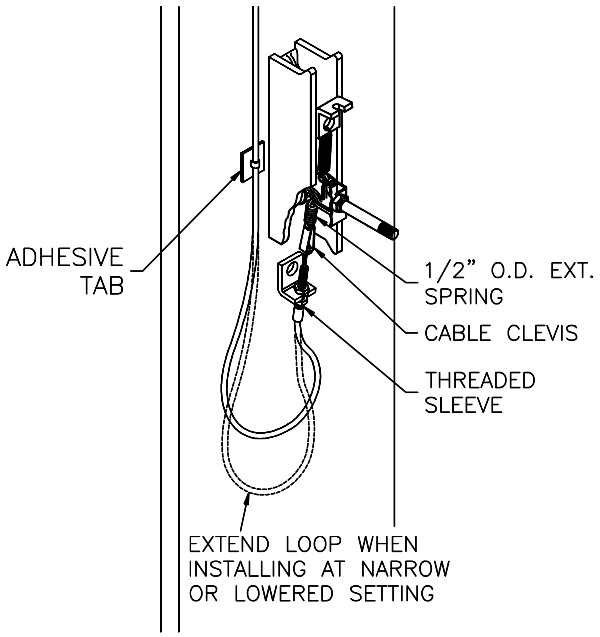


Fig 12 – Idler Column Lock Assembly

34) Insert threaded sleeve portion of cable assembly in slot located on tab below lock pawl, **Fig 12**. With one jam nut located on each side of tab, adjust the threaded sleeve to begin to pull tension on the ½" O.D. spring. Snug jam nuts by hand.

THE LOCK RELEASE CABLE ADJUSTMENT IS NOT COMPLETE UNTIL THE LIFT HAS BEEN LOWERED AND "FINAL ADJUSTMENTS" HAVE BEEN MADE.

ARM INSTALLATION

35) Lubricate the arm pin or carriage arm pin hole with "anti-seize" and install the arms. Insure that the arm restraint gears engage and disengage properly. Arm restraints should disengage when lift is fully lowered. If any binding occurs, insure that the large gear mounted to the arm has been factory installed tight against the arm pin.

ELECTRICAL

36) Wire tie Limit Switch cord to Power Column hose inside column and down to hose "T" fitting. Route cord out slot and tie to Power Unit hose.

37) Connect the Overhead Limit Switch Cord to Power Unit as shown in **Fig 13**.

38) Connect Power Unit to suitable electrical source as shown in **Fig 13**.

39) **IMPORTANT**: AFTER WIRING HAS BEEN COMPLETED, TEST OPERATION OF POWER UNIT & OVERHEAD LIMIT SWITCH. WHILE RAISING LIFT, OPERATE OVERHEAD SHUTOFF BAR. POWER UNIT MOTOR SHOULD STOP WHEN SHUTOFF BAR IS RAISED.

FINAL ADJUSTMENTS

HYDRAULICS

40) Lower the lift to the floor and raise the lift approximately one foot.

41) Start with Idler side first. Slowly and carefully loosen the bleed plug on top of the cylinder just enough to allow the entrapped air to escape. Repeat for power side.

42) Energize the power unit and raise 6 inches. Repeat previous step until no air comes out of cylinder.

43) Pressure test hydraulic system. Energize power unit, raise lift to full rise and continue to run motor for additional 10 seconds. (NOTE: pressure relief will make a high pitch squeal sound for these 10 seconds.) Check hydraulic system for leaks.

44) Energize power unit again for 10 seconds. With a clean rag, wipe down both cylinder rods. (The cylinders are shipped with a small amount of clear anti-corosive lubricant that will be forced out through the wiper when the lift reaches full rise.) **If lubricant is not wiped clean from the cylinder rod, the cylinder will apear to be leaking**.

SYNCHRONIZING CABLES

45) Cycle lift to insure that latches operate simultaneously. Lower lift onto locks and insure that neither lock will wobble (it is possible for one carriage to be resting on its lock while the other carriage is being supported by the synchronizing cable).

LOCK RELEASE CABLE

46) Lower lift to the floor and snap plastic cover over Power Column lock assembly.

47) Pull and release Power Column lock release handle while watching Idler Column lock. Adjust lower threaded sleeve cable adjuster jam nuts on Idler Column until Idler Column lock disengages and engages fully. When properly adjusted, the idler column lock should just come to rest against the back of the column when engaged and fully out against the tab when disengaged. Tighten Idler Column lower tab jam nuts.

IMPORTANT: IF IDLER SIDE LOCK PAWL DOES NOT FULLY DISENGAGE, DAMAGE MAY RESULT TO IDLER SIDE CARRIAGE AND OR CABLE SYNCHRONIZING SYSTEM.

48) Tighten threaded sleeve cable adjuster jam nuts and install lock release knob.

49) Tighten and trim wire ties.

50) Snap plastic cover over Idler lock assembly (align idler side lock release cable with notches in lock cover flange).

Wiring Diagram

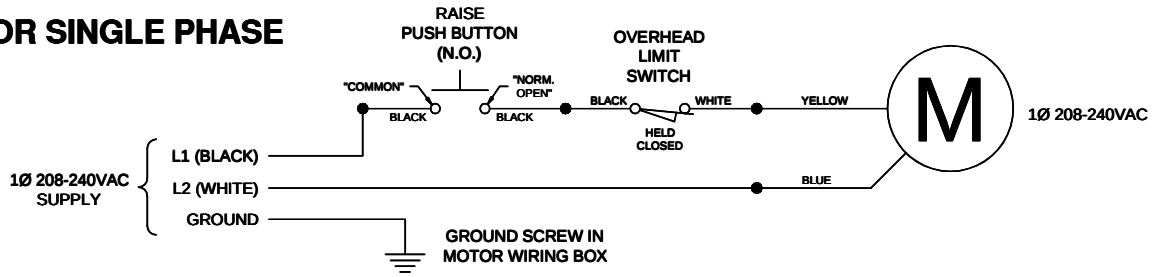
*** After wiring has been completed, test operation of Power Unit & Overhead Limit Switch. While raising lift, operate Overhead Shutoff Bar. Power Unit Motor should stop when Shutoff Bar is raised.**

EACH LIFT SHOULD HAVE A DEDICATED CIRCUIT WITH A DOUBLE POLE (THREE POLE FOR 440-480V) BREAKER OR TIME DELAY FUSE SIZED ACCORDING TO THE FOLLOWING CHART

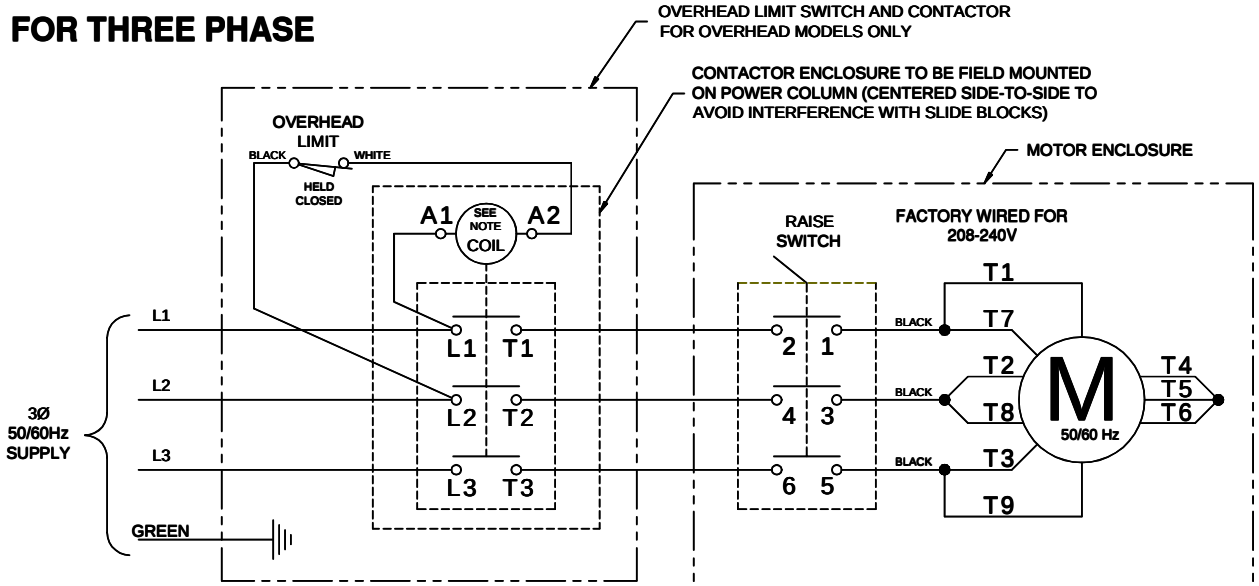
	1Ø 208-240V	3Ø 208V	3Ø 220-240V	3Ø 440-480V
2Hp	25amp	15amp	15amp	5amp

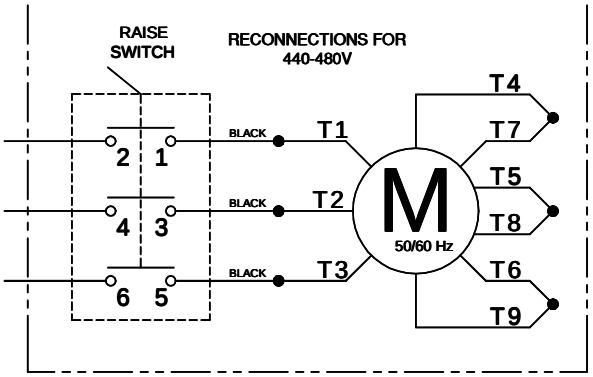
* WIRING MUST COMPLY WITH NEC AND ALL LOCAL ELECTRICAL CODES *

FOR SINGLE PHASE



FOR THREE PHASE





NOTES:

1) MOTOR IS FACTORY WIRED FOR 208V OR 220-240V SUPPLY

2) MOTOR CONNECTIONS MUST BE RECONFIGURED PER THIS DIAGRAM FOR 440-480V SUPPLY

3) CONTACTOR COIL RATING MUST MATCH SUPPLY VOLTAGE (208V, 220-240V, OR 440-480V)

4) CONTACTOR MUST BE FIELD MOUNTED ON POWER COLUMN (CENTERED SIDE-TO-SIDE TO AVOID INTERFERENCE WITH SLIDE BLOCKS)

5) MOTOR ROTATION IS COUNTER CLOCKWISE FROM TOP OF MOTOR

Fig 13 – Electrical Wiring Diagram

OWNER/OPERATOR CHECKLIST

51) Demonstrate the operation of the lift to the owner/operator and review correct and safe lifting procedures using the **Lifting It Right** booklet as a guide.

52) Complete the Installation Checklist/Warranty Validation questionnaire with the owner. Review the terms of the warranty registration card, and return the card and a copy of the questionnaires to:

Challenger Lifts, Inc.
200 Cabel Street
Louisville, KY. 40206

OPERATION PROCEDURE

SAFETY NOTICES AND DECALS

This product is furnished with graphic safety warning labels, which are reproduced on page 3 of these instructions. Do not remove or deface these warning labels, or allow them to be removed or defaced. For your safety, and the safety of others, read and understand all of the safety notices and decals included.

OWNER/EMPLOYER RESPONSIBILITIES

This lift has been designed and constructed according to ANSI/ALI ALCTV-1998 standard. The standard applies to lift manufactures, as well as to owners and employers. The owner/employer's responsibilities as prescribed by ANSI/ALI ALOIM-2000, are summarized below. For exact wording refer to the actual standard provided with this manual in the literature pack.

The Owner/Employer shall insure that lift operators are qualified and that they are trained in the safe use and operation of the lift using the manufacturer's operating instructions; ALI/SM 93 -1, ALI Lifting it Right safety manual; ALI/ST-90 ALI Safety Tips card; ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; ALI/WL Series, ALI Uniform Warning Label Decals/Placards; and in case of frame engaging lifts, ALI/LP-GUIDE, Vehicle Lifting Points/Quick Reference Guide for Frame Engaging Lifts.

The Owner/Employer shall establish procedures to periodically inspect the lift in accordance with the lift manufacturer's instructions or ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and the employer shall insure that the lift inspectors are qualified and that they are adequately trained in the inspection of the lift.

The Owner/Employer shall establish procedures to periodically maintain the lift in accordance with the lift manufacturer's instructions or ANSI/ALIOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintanence; and the employer shall insure that the lift maintenance personnel are qualified and that they are adequately trained in the maintenance of the lift.

The Owner/Employer shall maintain the periodic inspection and maintenance records recommended by the manufacturer or ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance.

The Owner/Employer shall display the lift manufacturer's operating instructions; ALI/SM 93 -1, ALI Lifting it Right safety manual; ALI/ST-90 ALI Safety Tips card; ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and in the case of frame engaging lift, ALI/LP-GUIDE, Vehicle Lifting Points/Quick Reference Guide for Frame Engaging Lifts; in a conspicuous location in the lift area convenient to the operator.

LIFTING A VEHICLE

1) Insure that the lifting arms are parked, out to full drive thru position.
2) Position the vehicle in the service bay so that the vehicle's center of gravity is on a line between the two columns, and so the vehicle is centered between the two columns.

DO NOT EXCEED 2250 POUNDS PER ARM.

DO NOT ATTEMPT TO LIFT THE VEHICLE WITH ONLY TWO ARMS, AS THIS WILL VOID THE WARRANTY

INSURE THAT THE HIGHEST POINT ON THE VEHICLE WILL CONTACT THE OVERHEAD LIMIT SWITCH BAR.

DO NOT PLACE THE VEHICLE IN THE SERVICE BAY BACKWARDS.

REFER TO THE VEHICLE MANUFACTURERS SERVICE MANUAL, TECHNICAL BULLETINS, "VEHICLE LIFTING POINTS GUIDE" (ALI/LP-GUIDE) OR OTHER PUBLICATIONS TO LOCATE THE RECOMMENDED LIFTING POINTS.

3) Position the arms and adapters so all four pads contact the vehicle simultaneously.

The vehicle should remain level during lifting.

4) Raise the lift until all four wheels are off the ground. Test the stability of the vehicle by attempting to rock the vehicle. Check adapters for secure contact with vehicle lift points. If the vehicle seems unstable, lower the lift and readjust the arms. If the vehicle is stable, raise the vehicle to a height a few inches above the desired working height.
5) Lower the vehicle until the safety latches on both columns engage. The vehicle should remain level when both latches are engaged. If one side engages and the other continues to descend, stop lowering the vehicle, raise it several inches, and try again to engage both latches.

Always lower lift into locks before entering the area beneath the vehicle.
Always use safety stands when removing or installing heavy components.

LOWERING A VEHICLE

1) Insure that the area under the vehicle is clear of personnel and tools.
2) Raise the vehicle until both latches are free.
3) Disengage the latches by pulling down and holding the lock release lever.
4) Lower the vehicle by depressing the lowering valve handle.
5) Continue to lower the vehicle until the carriages stop against the base plate. Retract the extension arms, and park them.

MAINTENANCE

To avoid personal injury, permit only qualified personnel to perform maintenance on this equipment.

The following maintenance points are suggested as the basis of a preventive maintenance program. The actual maintenance program should be tailored to the installation. See ANSI/ALI ALOIM booklet for periodic inspection checklist and maintenance log sheet.

- If lift stops short of full rise or chatters, check fluid level and bleed both cylinders per Installation Instructions.
- Replace all Safety, Warning or Caution Labels if missing or damaged (***See Installation instructions page 3***.)

Daily

- Keep lift components clean.
- Check for loose or broken parts.
- Check hydraulic system for fluid leaks.
- Check adapters for damage or excessive wear. Replace as required with genuine Challenger Lifts parts.
- Check lock release activation. When properly adjusted, the idler column lock should rest firmly against the back of the column when engaged and against the spring mount tab when disengaged.

Weekly

- Check synchronizer cables and sheaves for wear. Replace as required with genuine Challenger Lifts parts.
- Check lock release cable adjustment per Installation Instructions step 42.

IMPORTANT: IF IDLER SIDE LOCK PAWL DOES NOT FULLY DISENGAGE, DAMAGE MAY RESULT TO IDLER SIDE CARRIAGE AND OR CABLE SYNCHRONIZING SYSTEM.

- Check synchronizer cable tension per Installation Instructions. Adjust if necessary.

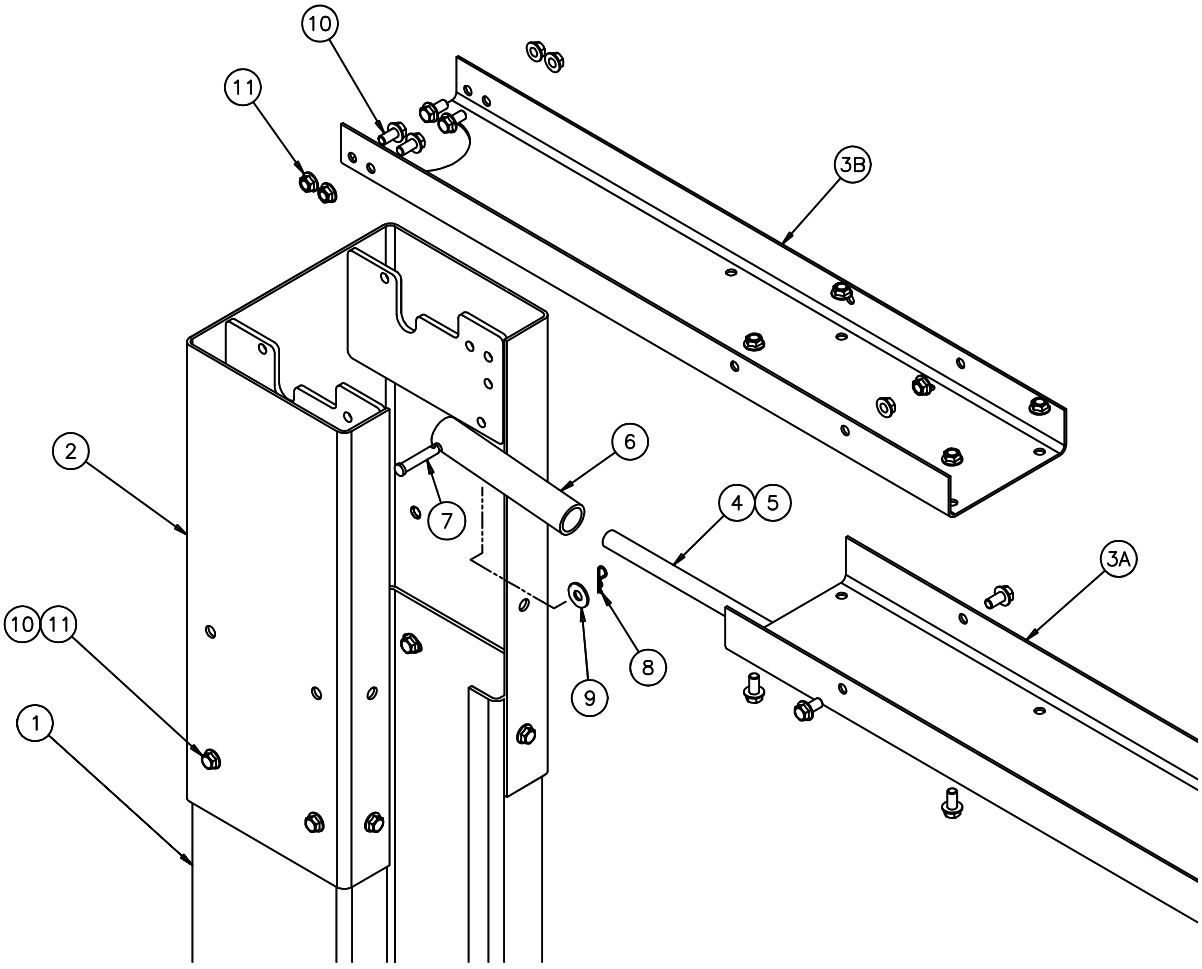
Monthly

- Torque concrete anchor bolts to 80 ft-lbs.
- Check overhead shutoff switch. While raising lift, operate overhead shutoff bar. Power Unit motor should stop when bar is raised.
- Lubricate carriage slide tracks with heavy viscous grease. (Grease all (4) corners of both columns.)

If any problems are encountered, contact your local service representative.

PARTS BREAKDOWN

Fig A. Column & Overhead

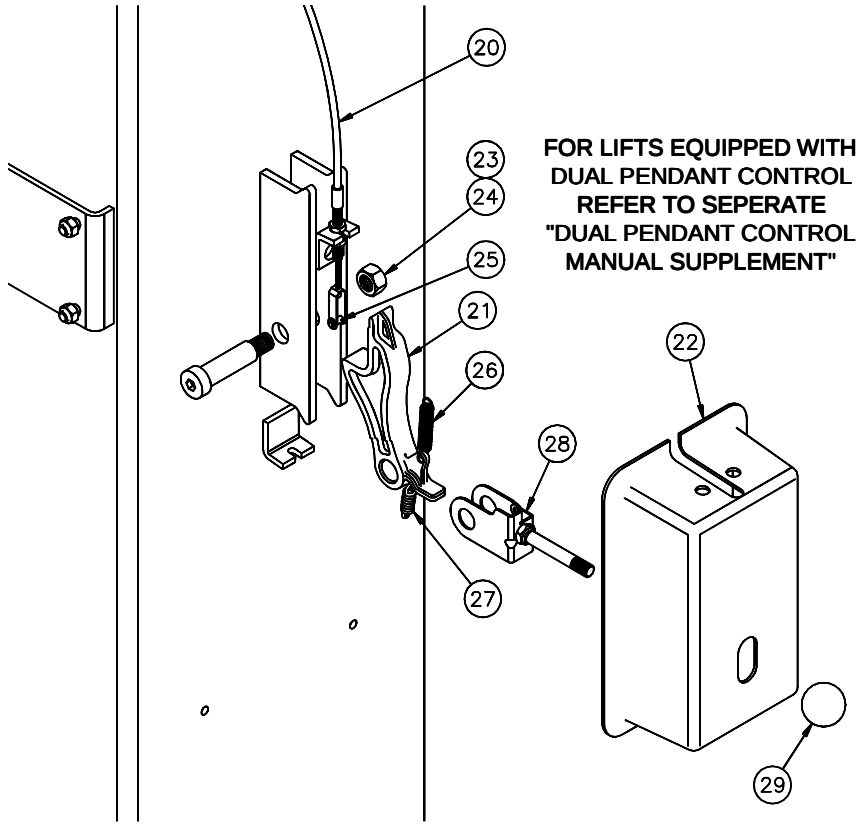


ITEM #	PART #	QTY/LIFT	DESCRIPTION
1	A1010-P	1	POWER COLUMN WELD
	A1010-I	1	IDLER COLUMN WELD
2	A1055-0	2	COLUMN EXTENSION WELD – CL9
	A1055-1		COLUMN EXTENSION WELD – CL9-1
	A1055-2		COLUMN EXTENSION WELD – CL9-2
3A	A1060	1	OVERHEAD CHANNEL (MID SECTION)
3B	A1061	2	OVERHEAD CHANNEL (END SECTION)
4	36074	1	SHUTOFF BAR
5	31129	1	PAD
6	36027	1	OVERHEAD LIMIT SWITCH
7	A1064	2	3/8 DIA x 1 7/8 Lg. CLEVIS PIN (SHUTOFF BAR)
8	40124	2	HAIRPIN COTTER PIN
9	31036	7	3/8" FLAT WASHER
10	A1153	36	3/8-16NC HEX.FLG.HD.C.S X 3/4" Lg.
11	A1154	36	3/8-16NC HEX.FLG.NUT

Replace all worn or broken parts with genuine ***Challenger Lifts Inc.*** parts.
Contact your local Challenger Lifts Parts Distributor for pricing and availability.
(Call Challenger Lifts Inc. (502) 625-0700 for the Parts Distributor in your area)

PARTS BREAKDOWN (continued)

Fig B. Lock



ITEM #	PART #	QTY/LIFT	DESCRIPTION
20	A1135-0	1	LOCK RELEASE CABLE ASSEMBLY – CL9-0
	A1135-1		LOCK RELEASE CABLE ASSEMBLY – CL9-1
	A1135-2		LOCK RELEASE CABLE ASSEMBLY – CL9-2
21	A1140	2	LOCK PAWL
22	A1133	2	LOCK COVER
23	30020	2	LOCK PIN (5/8 x 1 1/2" Lg. SHOULDER BOLT)
24	37013	2	LOCK PIN RETAINER (1/2-13NC HEX LOCK NUT)
25	37119	1	CLEVIS PIN KIT
26	A1131	2	LOCK SPRING (3/8" O.D.)
27	A1132	1	CABLE SPRING (1/2" O.D.) – Idler side ONLY
28	A1141	1	LOCK RELEASE CLEVIS ASSEMBLY – Power side ONLY
29	36096	1	BALL HANDLE – Power side ONLY

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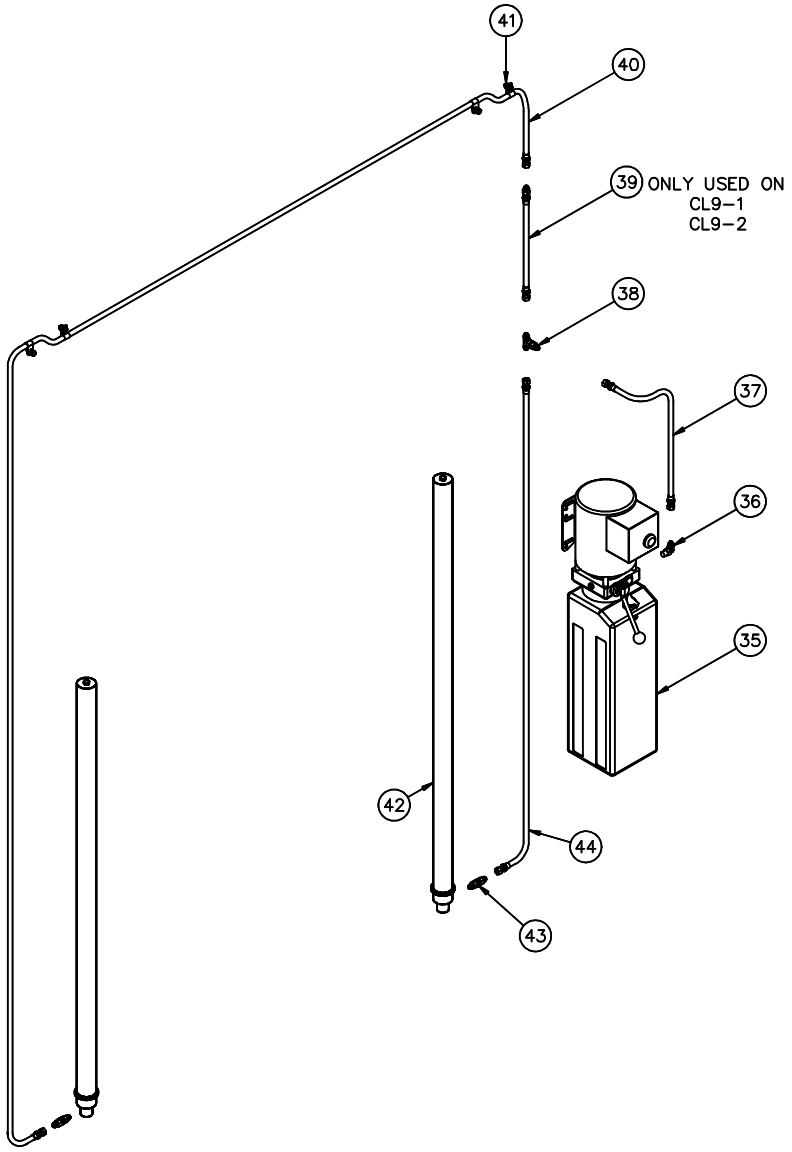
PARTS BREAKDOWN (continued)

Fig C. Hydraulics



ITEM #	PART #	QTY/LIFT	DESCRIPTION
35	A1201-15	1	POWER UNIT 1ph, 60 Hz, 208-230V
	A1203-15		POWER UNIT 3ph, 60 Hz, 208-230/460V
36	16167	1	HYD ELBOW, 9/16 O-RING MALE TO #6 MALE FLARE
37	A1123-PU	1	HYD HOSE ASSEMBLY, POWER UNIT (22" LONG)
38	A1120	1	BULKHEAD TEE, #6 MALE 37 DEGREE FLARE
39	39101-024	1	COLUMN EXTENSION HOSE, CL9-1 (24" LONG)
	39101-048	1	COLUMN EXTENSION HOSE, CL9-2 (48" LONG)
40	A1123-I	1	HYD HOSE ASSEMBLY, IDLER COLUMN (326" LONG)
41	A1122-12	7	HOSE CLAMP
42	16138	2	CYLINDER (68" STROKE X 2" BORE)
43	A1121	2	STRAIGHT ADAPTER, 9/16 MALE O-RING TO #6 MALE FLARE
44	A1123-P	1	HYD HOSE ASSEMBLY, POWER COLUMN (81" LONG)

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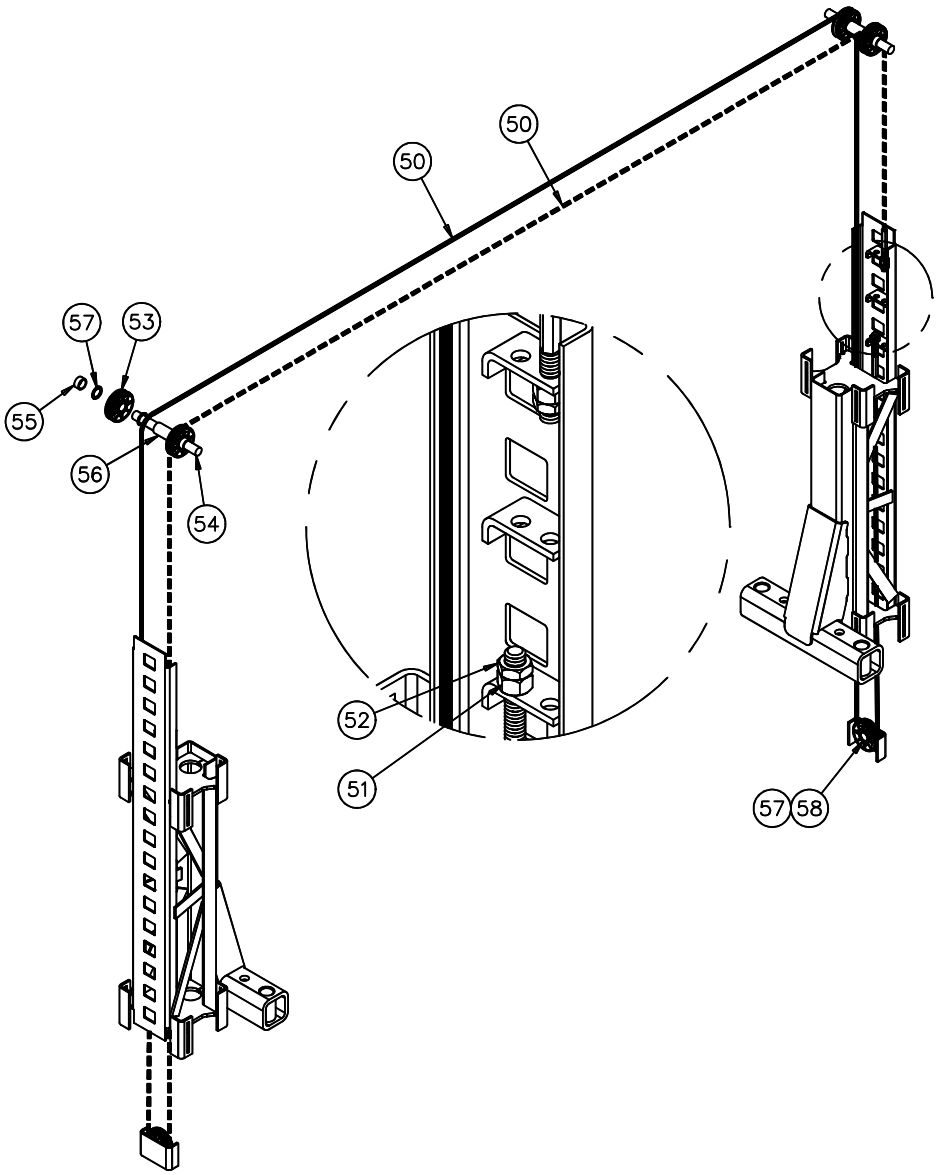
(Call Challenger Lifts Inc. (502) 625-0700 for the Parts Distributor in your area)

PARTS BREAKDOWN (continued)

Fig D. Synchronizer

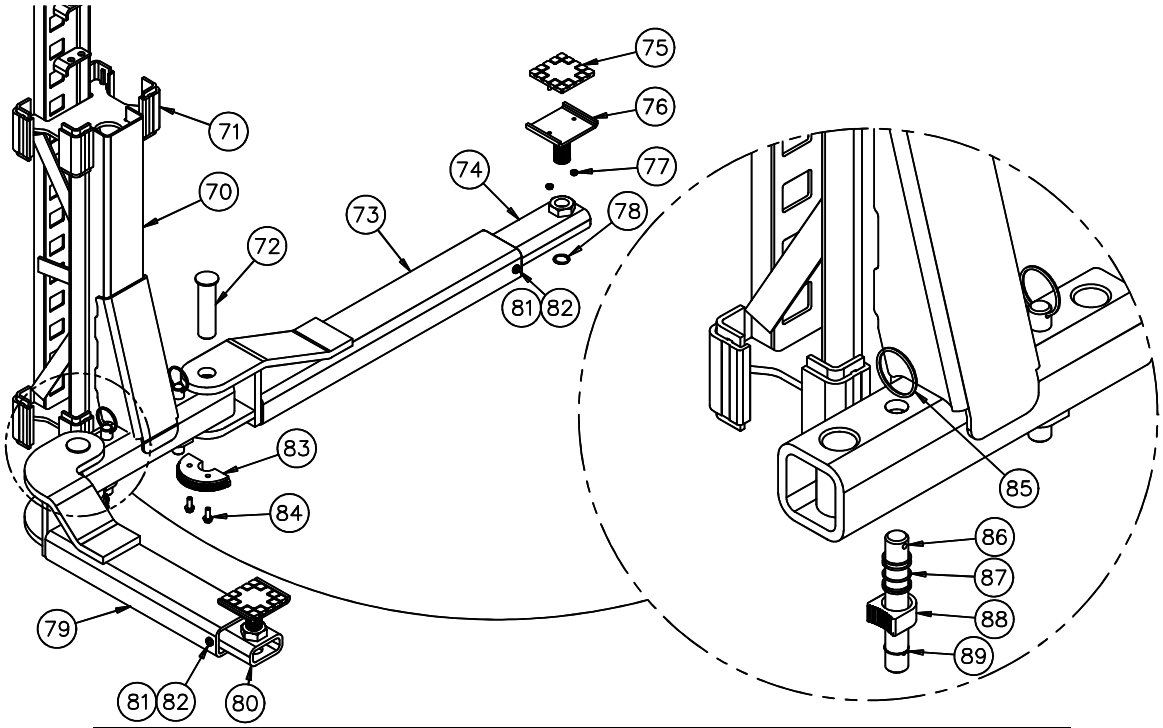


ITEM #	PART #	QTY/LIFT	DESCRIPTION
50	A1115-0	2	SYNCHRONIZER CABLE – CL9-0 (32'-8") [Cable Pack #A1003-0]
	A1115-1		SYNCHRONIZER CABLE – CL9-1 (34'-8") [Cable Pack #A1003-1]
	A1115-2		SYNCHRONIZER CABLE – CL9-2 (36'-8") [Cable Pack #A1003-2]
51	A1116	4	½-20NF HEX NUT
52	A1117	4	½-20NF HEX JAM NUT
53	A1041	6	SHEAVE ASSEMBLY (3 ½" DIA. X ¼" GROOVE)
54	A1062	2	SHEAVE PIN
55	A1063-S	4	SHORT SHEAVE SPACER
56	A1063-L	2	LONG SHEAVE SPACER
57	36013	10	1" I.D. SPACER WASHER
58	36014	2	1" EXT. RETAINING RING

Replace all worn or broken parts with genuine ***Challenger Lifts Inc.*** parts.
Contact your local Challenger Lifts Parts Distributor for pricing and availability.
(Call Challenger Lifts Inc. (502) 625-0700 for the Parts Distributor in your area)

PARTS BREAKDOWN (continued)

Fig E. Carriage & Arms



ITEM #	PART #	QTY/LIFT	DESCRIPTION
70	A1025	2	CARRIAGE WELD
71	A1040	16	SLIDE BLOCK
72	A1078	4	ARM PIN WELD
73	A1091	2	REAR FEMALE ARM WELD
74	A1094-R	2	MALE ARM WELD (REAR)
75	A1104	4	FOOT PAD RUBBER INSERT
76	A1101	4	FOOT PAD WELD
77	31061	8	1/4-20 KEPS NUT
78	39111	4	FOOT PAD RETAINER RING
79	A1086-P	1	FRONT FEMALE ARM WELD (POWER)
	A1086-I	1	FRONT FEMALE ARM WELD (IDLER)
80	A1094-F	2	MALE ARM WELD (FRONT)
81	31305	4	3/8 MALE ARM RETAINER SCREW
82	31037	4	3/8 LOCK WASHER
83	A1070	4	INNER GEAR
84	12568	8	3/8-16NCx1 Lg. HEX .FLG.LOCK.HD.C.S. GR.5 ZN PLT
85	A1075	4	PULL RING
86	A1073	4	SHAFT
87	31109	4	COMPRESSION SPRING (RESTRAINT SHAFT)
88	A1072	4	OUTER GEAR
89	36014	4	1" EXT. RETAINING RING

	A1090	2	REAR ARM ASSY	(ITEMS NO: 73, 74, 81, 82)
	A1085-P	1	FRONT ARM ASSY (POWER)	(ITEMS NO: 79, 80, 81, 82)
	A1085-I	1	FRONT ARM ASSY (IDLER)	(ITEMS NO: 79, 80, 81, 82)
	A1100	4	FOOT PAD ASSY	(ITEMS NO: 75, 76, 77)
	A1077	4	ARM RESTRAINT SHAFT ASSY	(ITEMS NO: 85, 86, 87, 88, 89)

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